

What is claimed is:

1. An image reading device having a plurality of photoelectric conversion elements formed in one or more rows on an IC chip and a conductor layer having openings formed therein for limiting light striking the photoelectric conversion elements,

wherein a conductor having substantially a same width as the conductor layer is formed in an area extending from a photoelectric conversion element located at each end of the IC chip to a chip edge.

2. An image reading device comprising an IC chip, the IC chip comprising:

a plurality of photoelectric conversion elements arranged at predetermined intervals in one or more rows on the IC chip and having an opening each;

a first metal conductor layer formed around the openings individually so as to prevent light from striking the photoelectric conversion elements except through the openings; and

a second metal conductor layer formed between the photoelectric conversion element located at an end of the row and a chip edge so as to shut off light coming from a direction of the chip edge.

3. An image reading device as claimed in claim 2,

wherein the first and second metal conductor layers are connected together by being formed continuously starting from the chip edge.

4. An image reading device as claimed in claim 2,  
wherein the second metal conductor layer is formed starting from the chip edge, and is insulated from the first metal conductor layer by a gap secured in between.

5. An image reading device as claimed in claim 2,  
wherein the second metal conductor layer is insulated from the chip edge by a gap secured in between, and is connected to the first metal conductor layer by being formed continually therewith.

6. An image reading device comprising an IC chip, the IC chip comprising:

a semiconductor substrate on which elements are formed;

a plurality of photoelectric conversion elements arranged at predetermined intervals in one or more rows on the semiconductor substrate;

an insulating layer formed over substantially an entire surface of the IC chip on and around the photoelectric conversion elements;

a metal conductor layer formed on a surface of the insulating layer with openings formed above the photoelectric conversion elements and in such a way as to surround the openings, the metal conductor layer serving to prevent light from striking the photoelectric conversion elements except through the openings; and

a plurality of contact holes formed at predetermined intervals in at least one row in the insulating layer so as to surround the openings, the contact holes serving to connect the metal conductor layer to the semiconductor substrate and

simultaneously preventing light from striking the photoelectric conversion elements through openings other than the openings formed right above the respective photoelectric conversion elements.

7. An image reading device as claimed in claim 2, further comprising:

a semiconductor substrate on which elements are formed;

an insulating layer formed over substantially an entire surface of the IC chip on and around the photoelectric conversion elements; and

a plurality of contact holes formed at predetermined intervals in at least one row in the insulating layer so as to surround the openings, the contact holes serving to connect the first metal conductor layer to the semiconductor substrate and simultaneously preventing light from striking the photoelectric conversion elements through openings other than particular openings.